

LPDES PERMIT NO. LA0115100, AI No. 89237

**LPDES STATEMENT OF BASIS
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA**

- I. Company/Facility Name:** INEOS Oxide - A Division of INEOS Americas LLC
INEOS Oxide
Post Office Box 718
Plaquemine, LA 70765
- II. Issuing Office:** Louisiana Department of Environmental Quality
(LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313
- III. Prepared By:** Jenniffer Sheppard
Industrial Permits Section
Water Permits Division
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Date Prepared: November 13, 2008

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of an existing Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46*.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC 33:IX Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 2

- B. NPDES permit - NPDES permit effective date: N/A
 NPDES permit expiration date: N/A
 EPA has not retained enforcement authority.
- C. LPDES permit - LPDES permit effective date: August 1, 2003
 LPDES permit expiration date: July 31, 2008
- D. Application received on June 18, 2008. Additional information received via e-mail on November 17, 2008 and November 18, 2008 and through telephone correspondence with INEOS Oxide on November 17, 2008.

V. Facility Information:

- A. Location - 21255A Highway 1 South in Plaquemine

- B. Applicant Activity -

According to the application, INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide, is a chemical manufacturing facility that produces mono-, di-, and tri-ethanolamines, glycol ethers (propylene glycolmethyl ethers and ethylene ether ethers), and polyethylene glycol (PEG).

INEOS Oxide owns and operates the Ethanolamines plant. Additionally, INEOS Oxide operates the Glycol Ethers and Polyethylene Glycol units for Dow Chemical Company. All Process wastewater (with exception of process area stormwater runoff addressed in this permit renewal) and sanitary wastewater from INEOS Oxide are treated and discharged by Dow Chemical Company's - Louisiana Operations Facility under LPDES Permit, LA0003301.

- C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline

Organic Chemicals, Plastics,
 and Synthetic Fibers
 Process Flow -

Reference

40 CFR 414
 Subparts G, H, and J

Outfall 184 -

0.3220 MGD

Outfall 185 -

0.0836 MGD

0.4056 MGD

Other sources of technology based limits:

LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Multi-Sector General Permit, LAR050000.

Light Commercial General Permit, LAG480000..

Best Professional Judgment

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 3

- D. Fee Rate -
1. Fee Rating Facility Type: minor
 2. Complexity Type: IV; BPJ from a VI to a IV due to process wastewaters being discharged through Dow Chemical's LPDES Permit, LA0003301.
 3. Wastewater Type: II
 4. SIC code: 2869
- E. Continuous Facility Effluent Flow - 0.12536 MGD (Average), 0.91 MGD (Max-30 Day).

The Max 30-Day Flow reported for Outfall 185 is 0.91 MGD. This value has been used for water quality screening purposes only. The application did not provide Max 30-Day Flows for individual wastewater streams for Outfall 185, therefore, the calculations for the Technology Based Effluent Limitations utilize the average flow of 0.12536 MGD.

VI. Receiving Waters: effluent pipe to the Dow Chemical Division Canal, thence to the Mississippi River

1. TSS (15%), mg/L: 32 mg/L
2. Average Hardness, mg/L CaCO_3 : 153.4 mg/L
3. Critical Flow, cfs: 141,955 CFS
4. Mixing Zone Fraction: 1/3
5. Harmonic Mean Flow, cfs: 366,748 CFS
6. River Basin: Mississippi River, Segment No. 070301
7. Designated Uses:
 The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: Water Quality Management Plan and a recommendation from the Engineering Section. Hardness and 15% TSS data come from a memo from Brian Baker to Sonja Loyd on August 25, 2006 for The Dow Chemical Company, Louisiana Operations Facility and based on DEQ station 319 east of Plaquemine on the Mississippi River (See Appendix C).

VII. Outfall Information:

Outfall 183

- A. Type of wastewater - the intermittent discharge of maintenance wastewater and low contamination potential stormwater runoff from the product storage area(s).
- B. Location - in the southwest end of Block 55 at the point of discharge prior to combining with the waters of the Dow Chemical Division Canal, at Latitude 30°19'07", Longitude 91°14'04".
- C. Treatment - None.

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 4

- D. Flow - Intermittent (estimated flow 0.063 MGD).
- E. Receiving waters - Mississippi River via the Dow Chemical Division Canal.
- F. Basin and segment - Mississippi River Basin, Segment 070301.

Outfall 184

- A. Type of wastewater - the intermittent discharge of process area stormwater, plant washdown wastewater, and maintenance wastewater from Areas 1 and 2, and the PEG Unit.
- B. Location - in the southeast end of Block 55, at the point of discharge prior to combining with the waters of the Dow Chemical Division Canal, at Latitude 30°19'09", Longitude 91°14'33".
- C. Treatment - None.

* the discharges from Outfall 184 are collected in sumps, tested, and evaluated prior to discharge. Wastewater not meeting applicable requirements is pumped to Dow's wastewater treatment facility for treatment and discharge, as provided by contract between INEOS Oxide and Dow Chemical Company's - Louisiana Operations Facility.

- D. Flow - Intermittent (Average flow 0.3225 MGD).

Process Wastewater*	0.3220 MGD
Maintenance Wastewater*	0.0005 MGD

* Specific component waste streams are defined at Appendix A-1.

- E. Receiving waters - Mississippi River via the Dow Chemical Division Canal.
- F. Basin and segment - Mississippi River Basin, Segment 070301.

Outfall 185

- A. Type of wastewater - the continuous discharge of cooling tower blowdown and the intermittent discharge of process area stormwater, plant washdown wastewater, T/T loading area stormwater, and condensate blowdown.
- B. Location - in the northeast end of Block 55 east of the office building, at the point of discharge prior to combining with the waters of the Dow Chemical Division Canal, at Latitude 30°19'12", Longitude 91°14'30".

Statement of Basis for
INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
LA0115100, AI No. 89237
Page 5

C. Treatment - None.

D. Flow - Continuous (Average flow 0.12536 MGD).

Process Wastewater*	0.0836 MGD
Utility Wastewater*	0.04176 MGD

* Specific component waste streams are defined at Appendix A-2.

E. Receiving waters - Mississippi River via the Dow Chemical Division Canal.

F. Basin and segment - Mississippi River Basin, Segment 070301.

Outfall 186

A. Type of wastewater - the intermittent discharge of maintenance wastewater and low contamination potential stormwater runoff from the product storage area(s).

B. Location - in the northeast end of the Polyethylene Glycol tank farm in the Dow Chemical complex, prior to combining with the waters of the Dow Chemical Division Canal, at Latitude 30°19'18", Longitude 91°14'24".

C. Treatment - None.

D. Flow - Intermittent (estimated flow 0.0001 MGD).

E. Receiving waters - Mississippi River via the Dow Chemical Division Canal.

F. Basin and segment - Mississippi River Basin, Segment 070301.

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 6

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

- A. Outfalls 183, 184, 185, and 186 - Outfalls have been renumbered per request of the Permit Compliance Unit. The table below references the old and new outfall numbers:

OUTFALL NUMBER FROM AUGUST 1, 2003 TPDES PERMIT	PROPOSED NEW OUTFALL NUMBER
1831	183
1841	184
1851	185
1861	186

- B. Outfalls 184 and 185 - deletion of monitoring requirements for Ammonia (as N). This parameter was established to address nitrogen impairments in the Mississippi River (Subsegment 070301) as indicated in the Court Ordered 303(d) list at the time of last permit issuance. The most recent listing for impaired waterbodies (the 2006 Final Integrated Report) did not contain nitrogen as an impairment in Subsegment 070301, therefore, this parameter has been deleted.

The LDEQ is aware of the occurrence of a low oxygen or "dead zone" in the Gulf of Mexico and its relationship to nutrients and fresh water from the Mississippi River and has developed a criteria development plan for state waters in coordination with EPA to create defensible nutrient criteria based on the best available science. Work on criteria for the Mississippi River is an ongoing effort and will require further scientific investigation because of the complex nature of the large Mississippi River watershed which includes over 30 states and two Canadian Provinces. A reopener clause has been established in the permit in accordance with LAC 33:IX.2903 which allows LDEQ to modify, or alternatively, revoke and reissue the permit to comply with any more stringent nutrient limitations or requirements that are promulgated in the future.

- C. Outfalls 184 and 185 - BOD₅ and TSS were calculated in accordance with the OCPSF Guideline concentrations at 40 CFR Part 414, with 85% of the production covered under Subpart G and 15% production under

Statement of Basis for
INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
LA0115100, AI No. 89237
Page 7

Subpart H. This renewal reflects a change to the percent of production from the current LPDES Permit effective on August 1, 2003 which was based on 54.15% of the production for Subpart G and 45.85% production for Subpart H. These changes result in lower BOD₅ and TSS OCPSF limitations at the outfalls.

- D. Outfall 184 - a daily maximum limitation of 15 mg/L for oil & grease has been established based on best professional judgment due to the presence of wash water and stormwater discharges at this outfall. This limitation is consistent with the limitation established in Schedule C of the Light Commercial General Permit for wash water and the Multi-Sector General Permit for stormwater runoff.
- E. Outfall 185 - oil & grease has been established using daily maximum concentration of 15 mg/L based on best professional judgment due to the presence of wash water and stormwater discharges at this outfall. The basis for this limitation is consistent with the limitation established in Schedule C of the Light Commercial General Permit for wash water and the Multi-Sector General Permit for stormwater runoff and shall be applied as a mass limitation due to the continuous nature of the discharges from this outfall.
- F. Outfall 185 - OCPSF limitations were calculated in accordance with 40 CFR, Part 414 and are applied as mass limitations in lieu of concentration, as previously established, due to the continuous nature of the discharges from this outfall.
- G. Outfall 185 - OCPSF technology-based effluent limitations and the end of pipe values included in the renewal application for Total Phenols, Total Copper, Total Nickel, and Total Zinc were screened to ensure compliance with current water quality standards. No water quality based effluent limitations were established as a result of this screen.
- H. Outfall 185 - the current permit, effective on August 1, 2003 did not assign BOD₅ and TSS allocations for the cooling tower blowdown and blowdown condensate wastewater because this was not a continuous discharge at the time of permit issuance. According to INEOS Oxide, cooling tower blowdown is now continuous and flows at an average rate of 29.2 gallons per minute (0.04176 MGD). Therefore, allocations were granted for this utility wastewater based on best professional judgment. Utility wastewater allocations have been applied to a flow of 0.04176 MGD and were based on a fraction of the OCPSF concentrations (0.25 for BOD₅ and TSS monthly averages and daily maximums).
- I. Outfall 186 - the monitoring frequency has been changed from 1/discharge to 1/month based on best professional judgment. Outfall 186 is similar in nature to the discharges from Outfall 183. This

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 8

Office has determined that it is appropriate to establish similar frequencies for similar types of discharges.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, CONDITIONS, AND MONITORING REQUIREMENTS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII. Regulations also require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)].

1. Outfall(s) 183 and 186 - Stormwater Runoff and Utility Wastewater

*Outfalls 183 and 186 - the intermittent discharge of maintenance wastewater and low contamination potential stormwater runoff from the product storage area(s)

Stormwater Runoff and Utility wastewaters being discharged to discrete outfalls receive BPJ limitations/monitoring requirements according to the following schedule:

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 9

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/month
TOC	---	---	---	50	1/month
Oil & Grease	---	---	---	15	1/month
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/month

Site-Specific Consideration(s) for Outfalls 183 and 186

Monitoring Frequencies - the monitoring frequency for Outfall 186 has been changed from 1/discharge to 1/month based on best professional judgment. Outfall 186 discharges are similar in nature to the discharges from Outfall 183 which have a 1/month monitoring frequency. Therefore, this Office has determined that it is appropriate to establish similar frequencies for similar types of discharges. Both outfalls shall be monitored 1/month for all parameters. The 1/month frequency for Outfall 183 has been retained from the current LPDES permit, effective on August 1, 2003.

Flow - Established in accordance with LAC 33:IX.2707.I.1.b. This requirement has been retained from the current LPDES permit, effective on August 1, 2003.

TOC and Oil & Grease - A daily maximum limitation of 50 mg/L for TOC and 15 mg/L for Oil & Grease has been retained from the current LPDES Permit, effective on August 1, 2003 and is consistent with the requirements in Schedule C of the Light Commercial General Permit (LAG670000) for maintenance wastewater and the Multi-Sector General Permit (LAR050000) for discharges of stormwater runoff.

PH - established in accordance with LAC 33:IX.1113.C.1. PH has been established at 6.0 to 9.0 s.u. This requirement has been retained from the current LPDES permit, effective on August 1, 2003.

Other Requirements Applicable to All Stormwater

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 10

the permit or as sheet flow. The Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit, along with other requirements. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2522.B.14 [40 CFR 122.26(b)(14)].

2. Outfall(s) 184 and 185 - Process Area Stormwater and Utility Wastewater.

*Outfall 184 - the intermittent discharge of process area stormwater, plant washdown wastewater, and maintenance wastewater from Areas 1 and 2, and the PEG Unit.

INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

<u>Manufacturing Operation</u>	<u>Guideline</u>
Organic chemical manufacturing	40 CFR 414, Subparts G, H, and J.

Subpart G = Bulk Organic Chemicals makes up 85% of the production at INEOS Oxide.

Subpart H = Specialty Organic Chemicals makes up 15% of the Production at INEOS Oxide.

Subpart J = Direct Discharge Point Sources That Do Not Use End-Of-Pipe Biological Treatment.

<u>Process</u>	<u>Average Flow, MGD</u>
Area 1 Process Area Stormwater	0.02
Area 1 Washdown	0.096
Area 2 Process Area Stormwater	0.03
Area 2 Washdown	0.096
PEG Process Area Stormwater	0.02
<u>PEG Plant Washdown</u>	<u>0.06</u>
Total Process	0.322

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 11

Miscellaneous

Maintenance Water

0.0005

Total Outfall Flow

0.3225

Calculations and basis of permit limitations are found at Appendix A-1 and associated appendices. See below for site-specific considerations.

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/day
pH (Standard Units)	---	---	6.0 (Min)	9.0 (Max)	1/month
BOD ₅	---	---	35.622	96.125	1/month
TSS	---	---	50.2	162.6	1/month
Oil & Grease	---	---	---	15.0	1/month
Acrylonitrile	---	---	0.094	0.232	1/year
Benzene	---	---	0.057	0.134	1/year
Carbon Tetrachloride	---	---	0.142	0.38	1/year
Chlorobenzene	---	---	0.142	0.38	1/year
Chloroethane	---	---	0.11	0.295	1/year
Chloroform	---	---	0.111	0.325	1/year
1,1-Dichloroethane	---	---	0.022	0.059	1/year
1,2-Dichloroethane	---	---	0.18	0.574	1/year
1,1-Dichloroethylene	---	---	0.022	0.06	1/year
1,2-trans- Dichloroethylene	---	---	0.025	0.066	1/year
1,2-Dichloropropane	---	---	0.196	0.794	1/year
1,3-Dichloropropylene	---	---	0.196	0.794	1/year
Ethylbenzene	---	---	0.142	0.38	1/year
Methyl Chloride	---	---	0.11	0.295	1/year

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 12

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Methylene Chloride	---	---	0.036	0.17	1/year
Tetrachloroethylene	---	---	0.052	0.164	1/year
Toluene	---	---	0.028	0.074	1/year
1,1,1-Trichloroethane	---	---	0.022	0.059	1/year
1,1,2-Trichloroethane	---	---	0.032	0.127	1/year
Trichloroethylene	---	---	0.026	0.069	1/year
Vinyl Chloride	---	---	0.097	0.172	1/year
2,4-Dimethylphenol	---	---	0.019	0.047	1/year
4,6-Dinitro-o-cresol	---	---	0.078	0.277	1/year
2,4-Dinitrophenol	---	---	1.207	4.291	1/year
2-Nitrophenol	---	---	0.065	0.231	1/year
4-Nitrophenol	---	---	0.162	0.576	1/year
Phenol	0.05	0.13	0.019	0.047	1/year
Acenaphthene	---	---	0.019	0.047	1/year
Acenaphthylene	---	---	0.019	0.047	1/year
Anthracene	---	---	0.019	0.047	1/year
Benzo (a) anthracene	---	---	0.019	0.047	1/year
Benzo (a) pyrene	---	---	0.02	0.048	1/year
3,4-Benzofluoranthene	---	---	0.02	0.048	1/year
Benzo (k) fluoranthene	---	---	0.019	0.047	1/year
Bis (2-ethylhexyl) phthalate	---	---	0.095	0.258	1/year
Chrysene	---	---	0.019	0.047	1/year
1,2-Dichlorobenzene	---	---	0.196	0.794	1/year
1,3-Dichlorobenzene	---	---	0.142	0.38	1/year
1,4-Dichlorobenzene	---	---	0.142	0.38	1/year

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 13

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Diethyl phthalate	---	---	0.046	0.113	1/year
Dimethyl phthalate	---	---	0.019	0.047	1/year
Di-n-butyl phthalate	---	---	0.02	0.043	1/year
Fluoranthene	---	---	0.022	0.054	1/year
Fluorene	---	---	0.019	0.047	1/year
Hexachlorobenzene	---	---	0.196	0.794	1/year
Hexachlorobutadiene	---	---	0.142	0.38	1/year
Hexachloroethane	---	---	0.196	0.794	1/year
Naphthalene	---	---	0.019	0.047	1/year
Nitrobenzene	---	---	2.237	6.402	1/year
Phenanthrene	---	---	0.019	0.047	1/year
Pyrene	---	---	0.02	0.048	1/year
1,2,4-Trichlorobenzene	---	---	0.196	0.794	1/year

Site-Specific Consideration(s) for Outfall 184

Flow - established in accordance with LAC 33:IX.2707.I.1.b. A sampling frequency of 1/day has been established for flow and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on August 1, 2003.

PH - established in accordance with LAC 33:IX.1113.C.1. A sampling frequency of 1/month has been established for PH and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on August 1, 2003.

BOD₅ and TSS - monthly average and daily maximum limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart G for Bulk Organic Chemicals and Subpart H for the Specialty Organic Chemical Subcategory with 0.322 MGD of process wastewater. Additionally, allocations were granted for miscellaneous wastewater based on best professional judgment. Miscellaneous wastewater allocations have been applied to a flow of 0.0005 MGD and were based on a fraction of the OCPSF concentrations (0.5 for BOD₅ monthly average and daily maximum

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 14

and 1.0 for TSS monthly average and daily maximum). The monitoring frequency of 1/month has been retained from the current LPDES permit effective on August 1, 2003.

Oil & Grease - a daily maximum limitation of 15.0 mg/L has been established based on best professional judgment due to the a reasonable potential that oil & grease will be present in the wash water and stormwater discharges. This limitation is consistent with limitations established in Schedule C of the Light Commercial General Permit and the Multi-Sector General Permit.

Phenol - mass and concentration limitations were established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment. This methodology has been retained from the current LPDES permit effective on August 1, 2003. The monitoring frequency of 1/year has also been retained. This frequency is appropriate since these pollutants are not expected to be on site.

Acrylonitrile, Benzene, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropylene, Ethylbenzene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2,4-Dimethylphenol, 4,6-Dinitro-o-cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Naphthalene, Nitrobenzene, Phenanthrene, Pyrene, 1,2,4-Trichlorobenzene - limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment. A monitoring frequency of 1/year has been retained from the current LPDES permit effective on August 1, 2003. This frequency is appropriate since these pollutants are not expected to be on site.

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 15

*Outfall 185 - the continuous discharge of cooling tower blowdown and the intermittent discharge of process area stormwater, plant washdown wastewater, T/T loading area stormwater, and condensate blowdown.

INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

<u>Manufacturing Operation</u>	<u>Guideline</u>
Organic chemical manufacturing	40 CFR 414, Subparts G, H, and J.

Subpart G = Bulk Organic Chemicals makes up 85% of the production at INEOS Oxide.

Subpart H = Specialty Organic Chemicals makes up 15% of the Production at INEOS Oxide.

Subpart J = Direct Discharge Point Sources That Do Not Use End-Of-Pipe Biological Treatment.

<u>Process</u>	<u>Average Flow, MGD</u>
Process Area Stormwater	0.0641
Plant Washdown	0.019
<u>T/T Loading Area Stormwater</u>	<u>0.0005</u>
Total Process	0.0836

<u>Utility Wastewater</u>	
Cooling Tower Blowdown & Condensate Blowdown	0.04176

Total Outfall Flow	0.12536
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Calculations and basis of permit limitations are found at Appendix A-2 and associated appendices. See below for site-specific considerations.

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/day
pH (Standard Units)	---	---	6.0 (Min)	9.0 (Max)	1/month
BOD ₅	28	75	---	---	1/month

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 16

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
TSS	39	128	---	---	1/month
Oil & Grease	---	16	---	---	1/month
Acrylonitrile	0.07	0.16	---	---	1/year
Benzene	0.04	0.09	---	---	1/year
Carbon Tetrachloride	0.10	0.26	---	---	1/year
Chlorobenzene	0.10	0.26	---	---	1/year
Chloroethane	0.08	0.21	---	---	1/year
Chloroform	0.08	0.23	---	---	1/year
1,1-Dichloroethane	0.02	0.04	---	---	1/year
1,2-Dichloroethane	0.13	0.40	---	---	1/year
1,1-Dichloroethylene	0.02	0.04	---	---	1/year
1,2-trans-Dichloroethylene	0.02	0.05	---	---	1/year
1,2-Dichloropropane	0.14	0.55	---	---	1/year
1,3-Dichloropropylene	0.14	0.55	---	---	1/year
Ethylbenzene	0.10	0.26	---	---	1/year
Methyl Chloride	0.08	0.21	---	---	1/year
Methylene Chloride	0.03	0.12	---	---	1/year
Tetrachloroethylene	0.04	0.11	---	---	1/year
Toluene	0.02	0.05	---	---	1/year
1,1,1-Trichloroethane	0.02	0.04	---	---	1/year
1,1,2-Trichloroethane	0.02	0.09	---	---	1/year
Trichloroethylene	0.02	0.05	---	---	1/year
Vinyl Chloride	0.07	0.12	---	---	1/year
2,4-Dimethylphenol	0.01	0.03	---	---	1/year
4,6-Dinitro-o-cresol	0.05	0.19	---	---	1/year

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 17

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
2,4-Dinitrophenol	0.84	2.99	---	---	1/year
2-Nitrophenol	0.05	0.16	---	---	1/year
4-Nitrophenol	0.11	0.40	---	---	1/year
Phenol	0.01	0.03	---	---	1/year
Acenaphthene	0.01	0.03	---	---	1/year
Acenaphthylene	0.01	0.03	---	---	1/year
Anthracene	0.01	0.03	---	---	1/year
Benzo (a) anthracene	0.01	0.03	---	---	1/year
Benzo (a) pyrene	0.01	0.03	---	---	1/year
3,4-Benzofluoranthene	0.01	0.03	---	---	1/year
Benzo (k) fluoranthene	0.01	0.03	---	---	1/year
Bis (2-ethylhexyl) phthalate	0.07	0.18	---	---	1/year
Chrysene	0.01	0.03	---	---	1/year
1,2-Dichlorobenzene	0.14	0.55	---	---	1/year
1,3-Dichlorobenzene	0.10	0.26	---	---	1/year
1,4-Dichlorobenzene	0.10	0.26	---	---	1/year
Diethyl phthalate	0.03	0.08	---	---	1/year
Dimethyl phthalate	0.01	0.03	---	---	1/year
Di-n-butyl phthalate	0.01	0.03	---	---	1/year
Fluoranthene	0.02	0.04	---	---	1/year
Fluorene	0.01	0.03	---	---	1/year
Hexachlorobenzene	0.14	0.55	---	---	1/year
Hexachlorobutadiene	0.10	0.26	---	---	1/year
Hexachloroethane	0.14	0.55	---	---	1/year
Naphthalene	0.01	0.03	---	---	1/year

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 18

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Nitrobenzene	1.56	4.46	---	---	1/year
Phenanthrene	0.01	0.03	---	---	1/year
Pyrene	0.01	0.03	---	---	1/year
1,2,4-Trichlorobenzene	0.14	0.55	---	---	1/year

(*) Water Quality Based Effluent Limitation.

Site-Specific Consideration(s) for Outfall 185

Flow - established in accordance with LAC 33:IX.2707.I.1.b. A sampling frequency of 1/day has been established for flow and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on August 1, 2003.

PH - established in accordance with LAC 33:IX.1113.C.1. A sampling frequency of 1/month has been established for PH and applied based on best professional judgment. These requirements were retained from the LPDES Permit effective on August 1, 2003.

BOD₅ and TSS - monthly average and daily maximum limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart G for Bulk Organic Chemicals and Subpart H for the Specialty Organic Chemical Subcategory with 0.0836 MGD of process wastewater. The current permit, effective on August 1, 2003 did not assign BOD₅ and TSS allocations for the cooling tower blowdown and blowdown condensate wastewater because this was not a continuous discharge at the time of permit issuance. According to INEOS Oxide, cooling tower blowdown is now continuous and flows at an average rate of 29.2 gallons per minute (0.04176 MGD). Therefore, allocations were granted for this utility wastewater based on best professional judgment. Utility wastewater allocations have been applied to a flow of 0.04176 MGD and were based on a fraction of the OCPSF concentrations (0.25 for BOD₅ and TSS monthly averages and daily maximums). The limitations are applied as mass limitations in lieu of concentration, as previously established, due to the continuous nature of the discharges from this outfall. The monitoring frequency of 1/month has been retained from the current LPDES permit effective on August 1, 2003.

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 19

Oil & Grease - established using daily maximum concentration of 15 mg/L based on best professional judgment due to the presence of wash water and stormwater discharges at this outfall. The basis for this limitation is consistent with the limitation established in Schedule C of the Light Commercial General Permit for wash water and the Multi-Sector General Permit for stormwater runoff and shall be applied as a mass limitation due to the continuous nature of the discharges from this outfall.

Acrylonitrile, Benzene, Carbon Tetrachloride, Chlorobenzene, Chloroethane, Chloroform, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropylene, Ethylbenzene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, Toluene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2,4-Dimethylphenol, 4,6-Dinitro-o-cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Phenol, Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Fluoranthene, Fluorene, Hexachlorobenzene, Hexachlorobutadiene, Hexachloroethane, Naphthalene, Nitrobenzene, Phenanthrene, Pyrene, 1,2,4-Trichlorobenzene - limitations established in accordance with OCPSF Guidelines under 40 CFR 414, Subpart J for direct discharge point sources that do not use end-of-pipe biological treatment. The limitations are applied as mass limitations in lieu of concentration, as previously established, due to the continuous nature of the discharges from this outfall. A monitoring frequency of 1/year has been retained from the current LPDES permit effective on August 1, 2003. This frequency is appropriate since these pollutants are not expected to be on site.

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations,

Statement of Basis for
INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
LA0115100, AI No. 89237
Page 20

results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

POLLUTANT(S)
None

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

TMDL Waterbodies

Outfalls 183, 184, 185, and 186

The discharges include maintenance wastewater and low contamination potential stormwater runoff from the production storage areas (Outfall 183), process area stormwater, plant washdown water, and maintenance wastewater from Areas 1 and 2 and the PEG Unit (Outfall 184), cooling tower blowdown and the intermittent discharge of process area stormwater, plant washdown water, T/T loading area stormwater, and condensate blowdown (Outfall 185), and maintenance wastewater and low contamination potential stormwater runoff from the product storage area (Outfall 186) are to effluent pipe to the Dow Chemical Division Canal, thence to the Mississippi River, Segment No. 070301. The Mississippi River is not listed on the 2006 Final Integrated Report as being impaired. Therefore, no additional requirements have been established in this permit.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

Site-Specific Consideration(s)

None

Statement of Basis for
 INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
 LA0115100, AI No. 89237
 Page 21

X. Compliance History/DMR Review:

DATE	PARAMETER	OUTFALL	REPORTED VALUE		PERMIT LIMITS	
			MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM
11/01/04	BOD ₅	184	46 mg/L	---	39.07 mg/L	---
03/01/05	Oil & Grease	183	---	No Sample Taken	---	15 mg/L
04/01/05	Ammonia	185	No Sample Taken	No Sample Taken	Report	Report
05/01/05	Ammonia	185	No Sample Taken	No Sample Taken	Report	Report
09/01/05	TOC	186	---	52 mg/L	---	50 mg/L
10/01/05	TSS	185	72.3 mg/L	186 mg/L	52.67 mg/L	170.004 mg/L
06/01/06	TOC	183	---	67.4 mg/L	---	50 mg/L

XI. "IT" Questions - Applicant's Responses

This applicant is not required to submit "IT" Questions in accordance with La. R.S. 30:2018(A).

XII. ENDANGERED SPECIES

The receiving waterbody, Subsegment 070301 of the Mississippi River Basin, has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon which is listed as a threatened and/or endangered species. This draft permit has been submitted to the FWS for review in accordance with a letter dated 11/17/08 from Rieck (FWS) to Nolan (LDEQ). The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

Statement of Basis for
INEOS Oxide - A Division of INEOS Americas LLC, INEOS Oxide
LA0115100, AI No. 89237
Page 22

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in the application.

XV. Variances:

No requests for variances have been received by this Office.

XVI. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List